

# 2001 **Water-Quality Report**



This brochure explains how drinking water provided by City of Tempe is of the highest quality. Included is a listing of results from water-quality tests as well as an explanation of where our water comes from and tips on how to interpret the data. This "Consumer Confidence

Report" is required by law. We're proud to share our results with you. Please read them carefully.

El informe contiene informacion importante sobre la calidad del agua en su comunidad. Tradùzcalo o hable con alguien que lo entienda bien. Pongase en contacto con el Departamento de Comunicaciones de la Ciudad de Tempe al (480) 350-8909.

We are proud to report that the water provided by City of Tempe meets or exceeds established water-quality standards.

#### Overview

In 2001, your water department distributed 18.6 billion gallons of water to Tempe customers. In addition to testing that we are required to perform, our water system voluntarily tests for hundreds of additional substances and microscopic organisms to make certain our water is safe and of the highest quality. If you are interested in a more detailed report, contact Sherman McCutcheon (480) 350-8330.

#### Water Source

The drinking water in Tempe is produced at two water treatment plants. The Johnny Martinez Treatment Plant is located at  $255\,\mathrm{E}$ .

Marigold Lane and the South Tempe Treatment Plant is located at 6600 S. Price Road.

The City of Tempe has several sources of water available to it:

year to year. Tempe's water use for 2001 was 54,331acre feet.

**Central Arizona Project water** — Beginning its journey from Lake Havasu, CAP water travels

to Lake Pleasant and on to Tucson. Tempe purchased 4,585 acre feet of CAP water in 2001.

#### Salt River Project water

— This water is collected from the Salt and Verde River watersheds, and diverted into SRP canals at the Granite Reef Dam, in Mesa. Tempe's allotment of SRP water depends on the amount of water available in the system, and therefore varies from

Bartiett
Reservoir

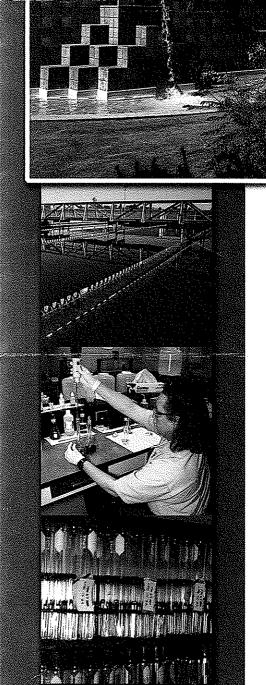
CAP Cand

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Tempe Water
Treatment Plants

**Groundwater** — Tempe has seven (7) groundwater wells that it uses as a back-up water supply in times of water shortages. The wells are tested quarterly to assure that the water meets safe drinking water standards. In 2001 Tempe pumped 699acre feet.



Substance	Unit	MCL	MCLG	Average Level	Range	Major Sources
Arsenic /	ppb	50	None	5.3	ND - 7.5 •	Erosion of natural deposits; Runoff from orchards
Barium /	ppm	2	2	0.06	0.04 - 0.09	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine	ppm	4.0 MRDL	4 MRDLG	0.93	0.20 - 1.35	Disinfectant added to control microbial contaminants
Fluoride /	ppm	4	4	0.78	0.31 - 1.56	Erosion of natural deposits; Water additive which promotes strong teeth
Nitrate /	ppm	10	10	2.1	ND - 4.0	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Lead (2000)	ppb	AL = 15	0	< 5	ND - 17	Corrosion of household plumbing systems
Copper (2000) 🗸	ppm	AL = 1.3	1.3	0.14	ND - 0.81	Corrosion of household plumbing systems
Sodium 🗸	ppm	No MCL's	0.000 (0.000)	141	52 - 190	Erosion of natural deposits
Chloride 🗸	ppm	No MCL's		200	12 - 388	Erosion of natural deposits
Sulfate 🗸	ppm	No MCL's		86	42 - 132	Erosion of natural deposits
Gross Alpha (1999)	pG/L	15	0	3.9	ND - 4.8	Erosion of natural deposits
Gross Beta (1999)	pG/L	50#	0	7.9	ND - 14	Decay of natural and man-made deposits
Turbidity 🗸		TT = 0.5 = percentage of mples <0.5 NT		0.08* 100%**	0.04 - 0.40 100%	Soil runoff
Total Coliform	% of Samples	<5	0	1.6*	0 - 1.6	Naturally present in the environment
Fecal Coliform	# of Samples				1	Confirmation sample was negative
Total Haloacetic acids	ppb	60		16.5 🖊	2.3 - 28.5	By-product of drinking water chlorination.
Chloral Hydrate Total Haloacetonitriles Total Haloketones	ppb ppb ppb	This group wa Information Co			1.1 - 6.9 2.9 - 8.3 0.5 - 3.3	By-products of drinking water chlorination
Total Trihalomethanes	ppb	80		50.9 🗸	10.4 - 92.3	By-product of drinking water chlorination

# **Key To Table**

MCL = Maximum Contaminant Level

NTU = Nephelometric Turbidity Units TT = Treatment Technique

AL = Action Level

MCLG = Maximum Contaminant Level Goal ppm = parts per million, or milligrams per liter (mg/l) ppb = parts per billion, or micrograms per liter (ug/l) #50 pCi/L is equivalent to 4 mrem/yr

\* maximum monthly average value

\*\* Minimum monthly average value

The analysis of Gross Alpha and Gross Beta is required every four years, data is from 1999.

EPA established a new MCL for Arsenic of 10 ppb in 2001. Arsenic is a naturally-occurring mineral known to cause cancer in humans at high concentrations. Although EPA will allow large systems until January 2006 to comply with the new MCL, all City of Tempe drinking water sources meet this standard today.

#### An Explanation of the Water-Quality Data Table

The following table shows the substances for which the Water Quality Laboratory tests. Every regulated substance that we detected in the water, even in the most minute traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement. Please note, the simple presence of a substance in drinking water does NOT necessarily indicate the drinking water poses a health risk. Certain quantities of some substances are essential to good health, but excessive quantities can be hazardous. Definitions of MCL and MCLG are important.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level Goal or MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Treatment Technique or TT:** A required process intended to reduce the level of a contaminant in drinking water.

Action Level or AL: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

#### **Unregulated Contaminants**

The City of Tempe has sampled our drinking water for the presence of the protozoan Cryptosporidium. Though rarely, Crytosporidium has been identified in the source water we receive, it has never been detected in our finished water supply.

During testing in January 2000, Radon was not detected in our drinking water. The U.S. Environmental Protection Agency (EPA) is preparing a regulation which will specify a Maximum Contaminant Level for radon. Radon is a radioactive gas that occurs naturally in ground water and is released from water into the air during household use.

MTBE is a volatile, organic chemical. MTBE promotes more complete burning of gasoline, reducing carbon monoxide and ozone levels. In the Clean Air Act of 1990, Congress mandat-

ed the use of reformulated gasoline. There have been cases of contamination of the groundwater due to leaks from storage tanks. MTBE has been detected in one of Tempe's wells, but has never been detected in the drinking water.

# Health Effect Language for Total Trihalomethanes (TTHM)

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

#### Required Additional Health Information

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- (E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

## Special Information for Immuno-compromised People

Some people may be more vulnerable to contaminants in drinking water than is the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791).

## Health Effects Language for Arsenic

While your drinking water meets USEPA's standard for arsenic, it does contain low levels of arsenic. USEPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems

If other people, such as tenants, residents, patients, students, or employees, receive water from you, it is important that you provide this notice to them by posting it in a conspicuous location or by direct hand or mail delivery.

Consult our Web site at www.tempe.gov/water and, for further information, see U.S. Environmental Protection Agency (EPA) water information at www.epa.gov/safewater/. Water Quality Data for community water systems throughout the United States is available at www.waterdata.com.

For more information, call City of Tempe at 480-350-8330.

Substance of Interest	Unit	Typical Value	Range of Values
Magnesium 🗸	ppm	22	6 - 50 🖊
Hardness 🗸	ppm	232	116 - 332 🖊
Hardness 🗸	grains/gallon	13.6	7 - 19 🖊
Aluminum /	ppm	0.22	ND - 0.39
Boron /	ppm	0.20	0.17 - 0.27
Calcium ,/	ppm	79	58 - 89 🗸
Potassium 🗸	ppm	11	8 - 12
Silica 🗸	ppm	21	13 - 30
рН 🗸	pH units	7.58	7.28 - 8.31 🗸
Bromide 🗸	ppm	0.10	ND - 0.21
Alkalinity 🗸	ppm	145	83 - 192 🗸



More than 100 tests are performed on your tap water to ensure it is always completely safe to drink. The Valley's tap water must meet all standards set by the Environmental Protection Agency (EPA) and the Arizona Department of Environmental Quality (ADEQ).

Valley water providers are committed to maintaining the safety and quality of your tap water. So if you want Quality drinking water at a most affordable cost.

Tap into Quality ... the bargain of tap water.